

2001 Chevrolet S10 Pickup

2001 ACCESSORIES & EQUIPMENT Power Windows - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

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DESCRIPTION & OPERATION

A permanent-magnet motor operates each power window. Each motor raises and lowers window when voltage is supplied. Motor direction depends on polarity of supply voltage. Switches control supply voltage polarity.

Master power window switch assembly controls all window motors. Individual window switches are located on each door panel. Each window motor is protected by a built-in circuit breaker. If a window switch is held too long with window obstructed or after window is fully up or down, circuit breaker opens circuit. Circuit breaker resets automatically as it cools.

COMPONENT LOCATIONS

COMPONENT LOCATIONS

Component	Location
Body Relay Block	Left Of Dash, Right Of Instrument Panel Fuse Block
Instrument Panel Fuse Block	Left Of Instrument Panel, Near Door Jamb Switch

TROUBLE SHOOTING

PRELIMINARY INSPECTION

Check condition of POWER WINDOW circuit breaker (30-amp) located in body relay block. See **COMPONENT LOCATIONS** . Check for mechanical failures or binding linkage. If express down feature does not work but window moves down with each switch depression, replace master switch assembly. Check for broken or partially broken wire inside insulation which could cause system malfunction but prove good in a continuity/voltage check. These circuits may be intermittent or resistive when loaded. Check by monitoring voltage drop with system under load. Check for proper installation of aftermarket electronic equipment. If problem still exists, perform appropriate system test. See **SYMPTOM INDEX** under SYSTEM TESTS.

POWER WINDOWS SYSTEM CHECK

1. Turn ignition switch to RUN position. Operate each window to UP and DOWN positions from master switch assembly.
2. Operate each window to UP and DOWN positions from individual window switches. All windows should operate quietly and smoothly through full range of travel. If problem exists with power window system, see **SYMPTOM INDEX** under SYSTEM TESTS.

SELF-DIAGNOSTIC SYSTEM

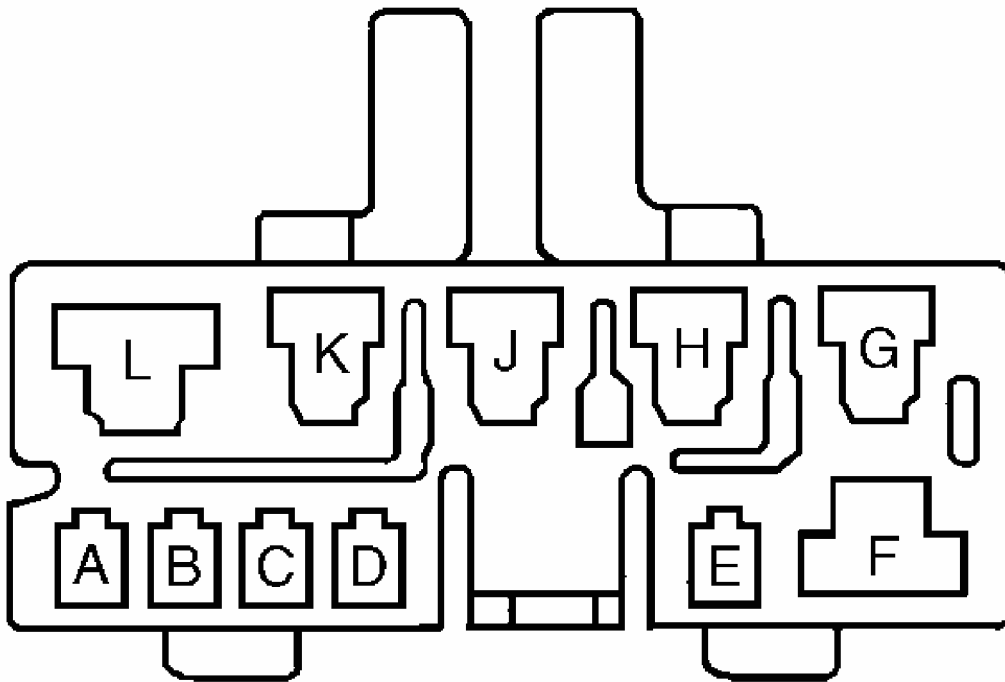
DIAGNOSTIC SYSTEM CHECK

1. Install scan tool. If scan tool powers up, go to next step. If scan tool does not power up, see **SCAN TOOL DOES NOT POWER UP** in appropriate **BODY CONTROL MODULES** article.
2. Turn ignition on, engine off. Attempt to establish communications with Body Control Module (BCM) and Memory Mirror Module. If scan tool communicates with BCM and Memory Mirror Module, go to step 4 . If scan tool does not communicate with BCM and Memory Mirror Module, see **SCAN TOOL DOES NOT COMMUNICATE WITH CLASS 2 DEVICE** in appropriate **BODY CONTROL MODULES** article.
3. Access **CLASS 2** power mode in diagnostic circuit check on scan tool. Rotate ignition switch through all positions while observing **IGNITION SWITCH POWER** mode parameter. If **IGNITION SWITCH** parameter reading matches ignition switch position for all switch positions, go to next step. If **IGNITION SWITCH** parameter does not match ignition switch position, see appropriate **BODY CONTROL MODULES** article.
4. Select display DTCs function on scan tool for BCM and Memory Mirror Module. If scan tool displays any DTCs, go to next step. If no DTCs are present, see **SYMPTOM INDEX** under **SYSTEM TESTS**.
5. If scan tool displays any DTCs which begin with a "U", see **SCAN TOOL DOES NOT COMMUNICATE WITH CLASS 2 DEVICE** in appropriate **BODY CONTROL MODULES** article. If scan tool does not display any codes which begin with a "U", go to next step.
6. If scan tool displays DTC B1000 or DTC B1005, see appropriate **BODY CONTROL MODULES** article in **ACCESSORIES & EQUIPMENT**.

CONNECTOR IDENTIFICATION

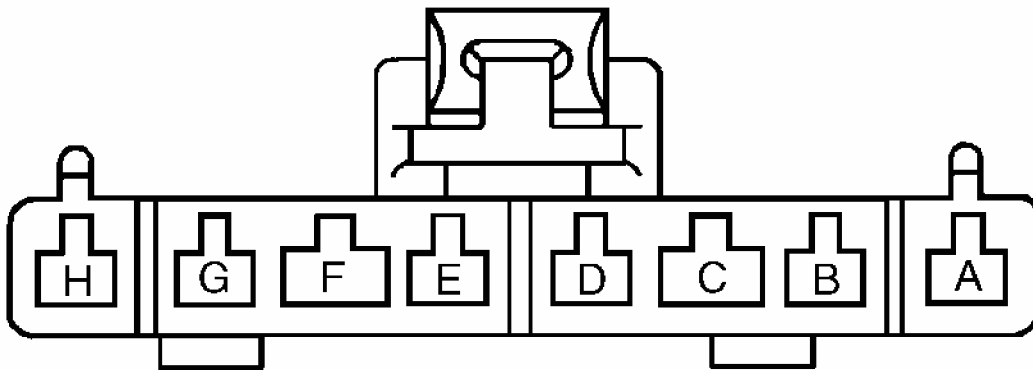
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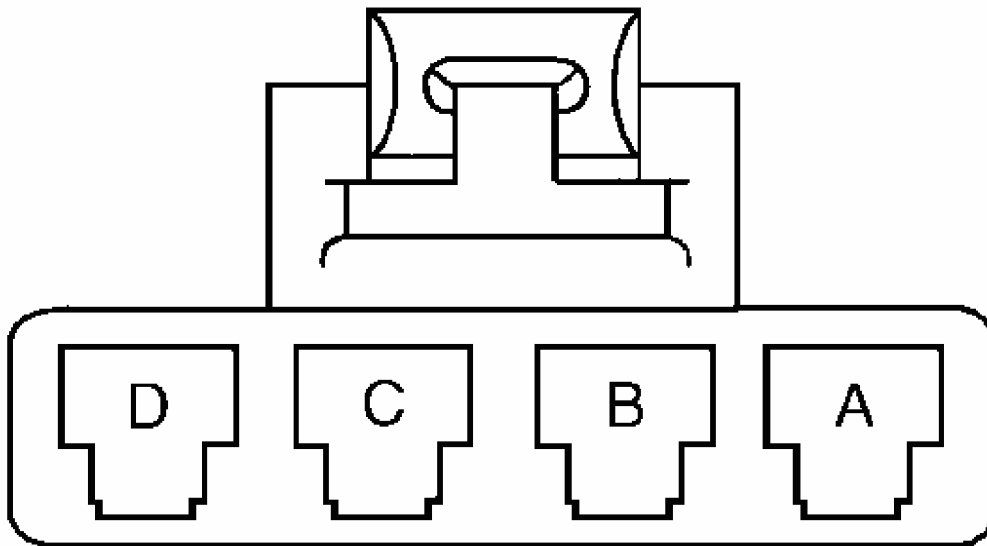
Fig. 1: Identifying Master Switch Assembly Connector C1 & Right Front Window Switch Connector Terminals
Courtesy of GENERAL MOTORS CORP.



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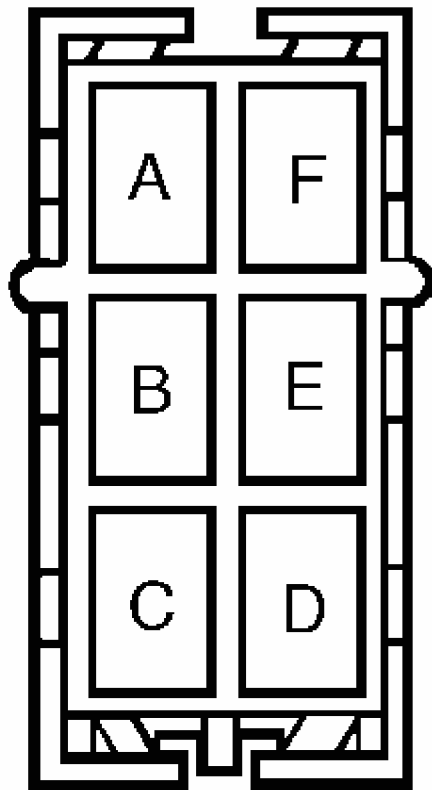
Fig. 2: Identifying Master Switch Assembly Connector C2 Terminals

Courtesy of GENERAL MOTORS CORP.



G99I02300

Fig. 3: Identifying Lock-Out Switch Connector Terminals
Courtesy of GENERAL MOTORS CORP.



G99A02301

Fig. 4: Identifying Left & Right Rear Window Switch Connector Terminals
Courtesy of GENERAL MOTORS CORP.

SYSTEM TESTS

CAUTION: When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle. See **COMPUTER RELEARN PROCEDURES** article in **GENERAL INFORMATION** before disconnecting battery.

NOTE: Before any testing is attempted, battery should be fully charged and all connections and pins cleaned and tightened to ensure proper continuity and ground.

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NOTE: To prevent damage to terminals, Connector Test Adapter Kit (J-35616-A) must be used whenever a diagnostic procedure requires checking or probing a terminal. To locate and identify terminals, see WIRING DIAGRAMS .

SYMPTOM INDEX

Symptom	Perform Test
Express Down Function Inoperative	<u>A</u>
Lockout Function Inoperative	<u>B</u>
All Power Windows Inoperative	<u>C</u>
Power Window Inoperative-Driver Door	<u>D</u>
Power Window Inoperative-Passenger Door	<u>E</u>

TEST A: EXPRESS DOWN FUNCTION INOPERATIVE

1. If diagnostic system check was performed, go to next step. If diagnostic system check was not performed, see DIAGNOSTIC SYSTEM CHECK under SELF-DIAGNOSTIC SYSTEM.
2. Turn ignition on, engine off. Depress driver power window switch in DOWN position and hold for approximately 1 second. Release driver power window switch. If driver window continues downward after switch is released, check for intermittent problem. If power window does not continue downward after window switch is released, go to next step.
3. Inspect for poor connections at power window master switch harness connector. If problem is found, repair as necessary and go to step 5 . If problem is not found, go to next step.
4. Replace power window master switch. After completing repair, go to next step.
5. Operate system in order to verify repair.

TEST B: LOCKOUT FUNCTION INOPERATIVE

1. If diagnostic system check was performed, go to next step. If diagnostic system check was not performed, see DIAGNOSTIC SYSTEM CHECK under SELF-DIAGNOSTIC SYSTEM.
2. Turn ignition on, engine off. Enable window lockout function. Operate passenger power windows from passenger door power window switch. If power windows go up and down, go to next step. If power windows do not go up and down, check for intermittent problem.
3. Check master switch lockout signal circuit (Dark Green wire) for short to battery voltage. If problem is found, repair as necessary and go to step 6 . If problem is not found, go to next step.
4. Inspect for poor connections at harness connector of side window lockout switch. If

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problem is found, repair as necessary and go to step 6 . If problem is not found, go to next step.

5. Replace side window lockout switch. After completing repair, go to next step.
6. Operate system in order to verify repair.

TEST C: ALL POWER WINDOWS INOPERATIVE

1. If diagnostic system check was performed, go to next step. If diagnostic system check was not performed, see **DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.
2. Turn ignition on, engine off. Operate driver and passenger power windows from passenger window switch and master window switch. If both power windows operate correctly from all switches, check for intermittent problem. If power windows do not operate correctly from all switches, go to next step.
3. If either power window operates from any switch, see **TEST D: POWER WINDOW INOPERATIVE-DRIVER DOOR** or **TEST E: POWER WINDOW INOPERATIVE-PASSENGER DOOR** . If either power window does not operate from any switch, go to next step.
4. Disconnect power window master switch. Turn ignition on, engine off. Using test lamp connected to ground, probe RAP fuse supply voltage circuit terminal "L" (Dark Green wire) at master switch harness connector C1. See **Fig. 1** . If test lamp illuminates, go to next step. If test lamp does not illuminate, go to step 7 .
5. Using test lamp connected to battery voltage, probe master switch ground circuit terminal "C" (Black wire) at master switch connector C2. See **Fig. 2** . If test lamp illuminates, go to next step. If test lamp does not illuminate, go to step 8 .
6. Inspect for poor connections at power window master switch harness connector. If problem is found, repair as necessary and go to step 10 . If problem is not found, go to step 9 .
7. Repair open in RAP fuse supply voltage circuit (Dark Green wire). After completing repair, go to step 10 .
8. Repair open in power window master switch ground circuit (Black wire). After completing repair, go to step 10 .
9. Replace power window master switch. After completing repair, go to next step.
10. Operate system in order to verify repair.

TEST D: POWER WINDOW INOPERATIVE-DRIVER DOOR

1. If diagnostic system check was performed, go to next step. If diagnostic system check was not performed, see **DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.
2. Turn ignition on, engine off. Operate driver door power window from master switch. If power window operates correctly, check for intermittent problem. If power window

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does not operate correctly, go to next step.

3. Operate passenger window from master switch. If window operates correctly, go to next step. If window does not operate correctly, see **TEST C: ALL POWER WINDOWS INOPERATIVE** .
4. Access power window master switch. Using Connector Test Adapter Kit (J-35616-A), connect test lamp between left front power window motor UP circuit terminal "A" (Dark Blue wire) and DOWN circuit terminal "E" (Tan wire) at master switch connector C2. See **Fig. 2** . Operate left front power window in up and down directions. If test lamp illuminates in both directions, go to next step. If test lamp does not illuminate in both directions, go to step 6 .
5. Test power window motor feed left front UP (Dark Blue wire) and DOWN (Brown wire) circuits for an open or short to ground. If problem is found, repair as necessary and go to step 8 . If problem is not found, go to step 7 .
6. Replace left power window master switch. After completing repair, go to step 8 .
7. Replace left front power window motor. See **WINDOW REGULATOR MOTOR** under REMOVAL & INSTALLATION. After completing repair, go to next step.
8. Operate system in order to verify repair.

TEST E: POWER WINDOW INOPERATIVE-PASSENGER DOOR

1. If diagnostic system check was performed, go to next step. If diagnostic system check was not performed, see **DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.
2. Turn ignition on, engine off. Operate passenger window from both passenger window switch and master switch. If window operates correctly using both switches, check for intermittent problem. If window does not operate correctly, go to next step.
3. If passenger window operates correctly from master window switch and not from passenger window switch, go to step 5 . If window does not operate as specified, go to next step.
4. If passenger window operates from passenger window switch and not master switch, go to step 9 . If passenger window does not operate as specified, go to step 10 .
5. If vehicle is equipped with a window lockout switch, go to next step. If window is not equipped with a window lockout switch, go to step 7 .
6. Disconnect passenger power window switch. Using test lamp connected to ground, test master switch lockout signal circuit terminal "F" (Dark Green wire) at passenger power window switch harness connector. If test lamp illuminates, go to step 20 . If test lamp does not illuminate, go to step 8 .
7. Disconnect passenger power window switch. Connect a test lamp between RAP fuse supply voltage circuit terminal "F" (Dark Green wire) and ground at passenger power window switch harness connector C1. See **Fig. 1** . If test lamp illuminates, go to step 20 . If test lamp does not illuminate, go to step 28 .

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8. Disconnect side window lockout switch. Connect a test lamp between RAP fuse supply voltage circuit terminal "D" (Dark Green wire) and ground at side window lockout switch harness connector. See **Fig. 3** . If test lamp illuminates, go to step 19 . If test lamp does not illuminate, go to step 28 .
9. If driver side window operates from master switch, go to step 22 . If driver side power window does not operate from master switch, see **TEST C: ALL POWER WINDOWS INOPERATIVE** .
10. Disconnect passenger power window motor. Using test lamp connected to ground, probe power window motor UP circuit terminal "B" (Dark Blue wire) at passenger power window motor harness connector. Operate power window motor switch in up direction from power window master switch. If test lamp illuminates, go to next step. If test lamp does not illuminate, go to step 13 .
11. Using test lamp connected to ground, probe passenger power window motor DOWN circuit terminal "A" (Brown wire) at passenger window motor harness connector. Operate power window in down direction from power window master switch. If test lamp illuminates, go to next step. If test lamp does not illuminate, go to step 14 .
12. Connect test lamp between power window motor UP terminal "B" (Dark Blue wire) and power window DOWN terminal "A" (Brown wire) at passenger window motor harness connector. Operate power window in up and down directions. If test lamp illuminates, go to step 21 . If test lamp does not illuminate, go to step 22 .
13. Disconnect passenger power window switch. Using test lamp connected to ground, probe power window master switch UP signal circuit terminal "J" (Light Blue wire) at passenger window switch harness connector C1. See **Fig. 1** . Operate passenger window in up direction from power window master switch. If test lamp illuminates, go to step 17 . If test lamp does not illuminate, go to step 15 .
14. Disconnect passenger power window switch. Using a test lamp connected to ground, probe terminal "L" (Tan wire) at passenger power window switch harness connector C1. See **Fig. 1** . Operate passenger window in down direction from master switch. If test lamp illuminates, go to step 18 . If test lamp does not illuminate, go to step 16 .
15. Test for an open in power window master switch UP signal circuit (Dark Blue wire). If problem is found, repair as necessary and go to step 29 . If problem is not found, go to step 22 .
16. Test for an open in power window master switch DOWN signal circuit (Tan wire). If problem is found, repair as necessary and go to step 29 . If problem is not found, go to step 22 .
17. Test for open in power window motor UP circuit (Dark Blue wire). If problem if found, repair as necessary and go to step 29 . If problem is not found, go to step 20 .
18. Test for an open in power window motor DOWN circuit (Tan wire). If problem is found, repair as necessary and go to step 29 . If problem is not found, go to step 20 .
19. Test for an open in master switch lockout signal circuit (Dark Green wire). If problem is found, repair as necessary and go to step 29 . If problem is not found, go to step 23 .

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20. Inspect for poor connections at passenger window switch. If problem is found, repair as necessary and go to step 29 . If problem is not found, go to step 26 .
21. Inspect for poor connections at passenger power window motor. If problem is found, repair as necessary and go to step 29 . If problem is not found, go to step 25 .
22. Inspect for poor connections at driver power window master switch. If problem is found, repair as necessary and go to step 29 . If problem is not found, go to step 24 .
23. Inspect for poor connections at side window lockout switch. If problem is found, repair as necessary and go to step 29 . If problem is not found, go to step 27 .
24. Replace power window master switch assembly. After making necessary repairs, go to step 29 .
25. Replace passenger power window motor. See **WINDOW REGULATOR MOTOR** under REMOVAL & INSTALLATION. After making necessary repairs, go to step 29 .
26. Replace passenger power window switch. See **WINDOW SWITCH** under REMOVAL & INSTALLATION. After making necessary repairs, go to step 29 .
27. Replace side window lockout switch. After making necessary repairs, go to step 29 .
28. Repair open in accessory voltage circuit. After making necessary repairs, go to step 29 .
29. Operate system in order to verify repairs.

REMOVAL & INSTALLATION

CAUTION: When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle. See **COMPUTER RELEARN PROCEDURES** article in **GENERAL INFORMATION** before disconnecting battery.

WINDOW REGULATOR MOTOR

Removal & Installation (Front)

1. Lower window half-way. Disconnect negative battery cable. Remove inside door handle bezel retaining screw. Remove inside door handle bezel from trim panel by sliding forward. Remove power window switch panel. See **WINDOW SWITCH** .
2. Remove trim panel armrest screws. Using Trim Panel Remover (J-38778), pry retainers from door frame, and remove door trim panel. Remove water protection shield. Remove front run channel retaining bolts. Remove front run channel from door.
3. Slide window forward. Remove rear run channel retaining bolts. Remove rear run channel from door. Remove front door check link-to-door jamb bolt. Remove window weatherstrip. Remove window from window regulator. Move window forward to release sash channel from rear regulator roller. Tilt window forward to vertical position and pull upward to release sash channel from front regulator roller. Remove window

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from door.

CAUTION: Sector gear must be locked into position. Regulator lift arm is under tension from counterbalance spring and could cause personal injury if sector gear is not locked in position.

4. Disconnect electrical connector from window regulator motor. Drill out rivets that secure window regulator to door. Remove window regulator. Drill hole through regulator sector gear and backplate. Install bolt and nut, locking sector gear into position. Drill out window motor mounting rivets. Remove motor from window regulator.
5. Mount window regulator motor to window regulator. Remove bolt and nut used to lock sector gear into position. Use 3/16" (4.8 mm) rivets to install motor and regulator. To complete installation, reverse removal procedure.

Removal & Installation (Rear)

NOTE: Rear door window motor and regulator are serviced as an assembly. Do not attempt to separate window motor from regulator.

1. Remove bottom seat belt anchor bolt. Remove shoulder belt trim cover. Using Trim Pad And Garnish Clip Remover (J-38778), release trim panel-to-door retainers. Feed seat belt through trim panel. Remove water protection shield.
2. Run window to down position. Pull door weatherstrip from window opening, starting at bottom center (butt joint). Remove front run channel retaining bolts. Remove front run channel from door. Slide window forward. Remove rear run channel retaining bolts. Remove rear run channel from door. Push window rearward. Rotate window to release window sash channel from regulator rollers. Remove window from regulator by disengaging retaining clip. Remove window from door.
3. Disconnect window regulator motor electrical connector. Remove electrical harness retainers. Drill out window regulator-to-door rivets. Remove window regulator from door. To install, reverse removal procedure.

WINDOW SWITCH

Removal & Installation

Disconnect negative battery cable. Using flat-blade screwdriver, pry power window switch panel at front edge to release spring clip. Pull switch panel up from door trim panel. Disconnect electrical connector and remove power window switch panel. Remove switch from switch panel. To install, reverse removal procedure.

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WIRING DIAGRAMS

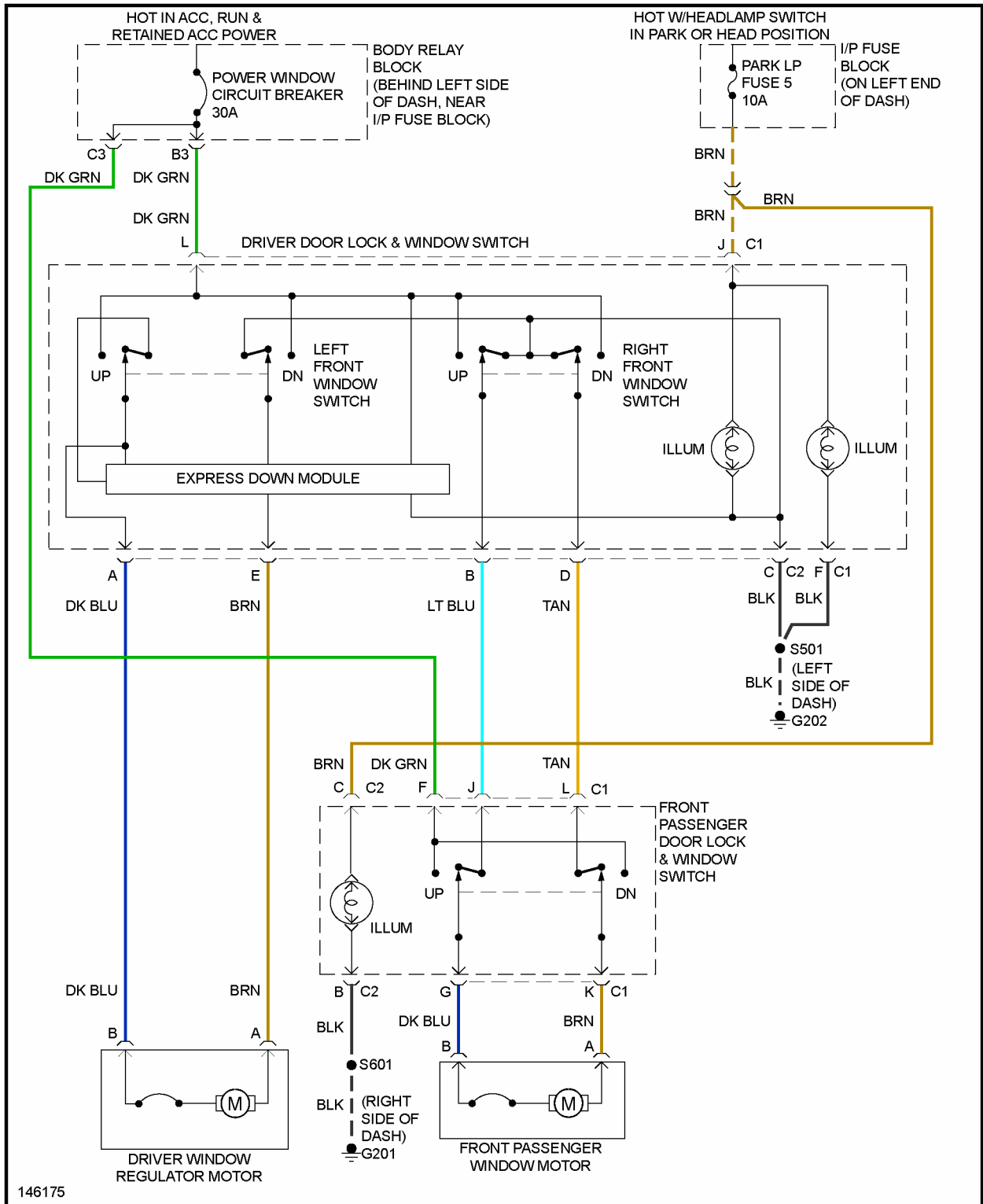


Fig. 5: Power Window System Wiring Diagram (Blazer, Jimmy, Sonoma, & S10)

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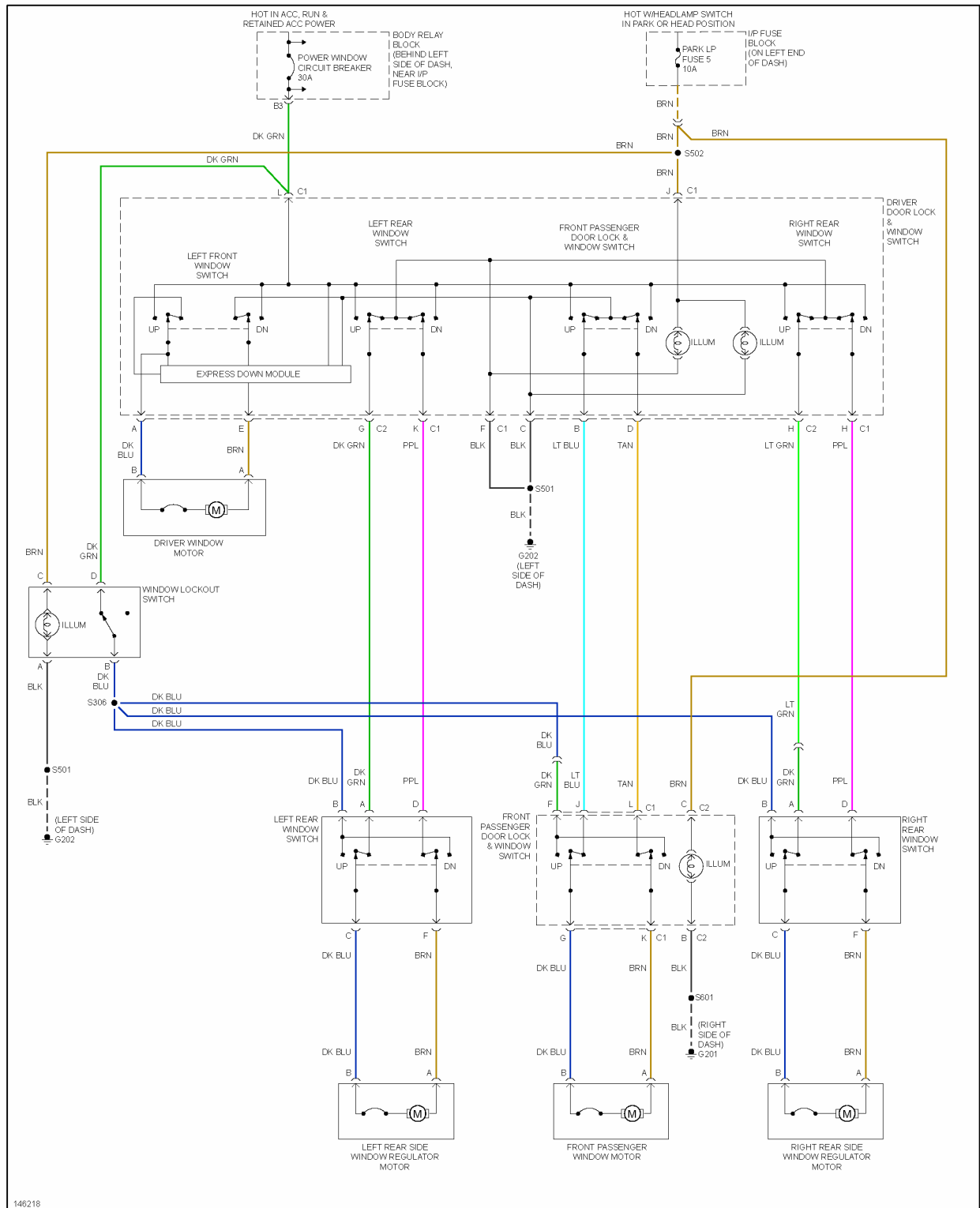


Fig. 6: Power Window System Wiring Diagram (Blazer, Bravada, Jimmy, Sonoma, &

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S10 Pickup - 4-Door)